YUSHCHENKO, L.

Can we agree with comrade B.? Sov.foto 20 no.10:22-23 O'60. (MIRA 13:10)
(Photography--Periodicals)

OMEL'CHENKO, A.A., inzhener; YUSHCHENKO, L.A., inzhener.

MS-5 machine for weaving mats. Sel'khozmashina no.9:12-14 S '56.
(MLRA 9:11)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po vodokhozyaystvu.
(Weaving)

YUSHCHENKO, Lev Andreyevich; DMITRIYEVA, L.A., red.; KLYUCHEVA, T.D., tekhn. red.

["The road"] Doroga. Moskva, Izd-vo "Sovetskaia Rossiia," 1961. 68 p. (MIRA 14:12)

(Siberia—Railroads)

YUSHCHENKO, M.D., kand.istor.nauk

Documents of a great historical importance. Nauka i zhyttia 11 no.7:1-2 Jl '61. (MIRA 14:8)
(Russia--Economic policy)
(Communism)

YUSHCHENKO, M.P.

127-58-6-22/25

AUTHORS: Yushchenko, M.P., Head of Transport Department and Mikhaylov, G.A., Chief Engineer of the Department

TITLE: Use of Heavy Trucks in the Sorskiy Combine (Primeneniye bol'shegruznykh avtomashin na Sorskom kombinate)

PERIODICAL: Gornyy Zhurnal, 1958, Nr 6, pp 76-77 (USSR)

ABSTRACT: The authors describe the use of large dump trucks MAZ-525 for removal work at the Sorskiy Combine. They also describe the organization of a working brigade and its everyday routine. Though the work of the trucks is quite satisfactory, the authors complain of many constructive and technological defects in the trucks themselves. The chassis, axles and other parts are often broken because of the use of low graded steel in their construction. Many other parts are also badly adjusted.

AVAILABLE: Library of Congress

Card 1/1 1. Trucks-Maintenance 2. Earth moving equipment

TUSHCHENKO, M.; MIKHAYLOV, G.

Experience in operating the MAZ-525 motortrucks. Avt. transp. 36 no.3:10 Mr '58. (MIRA 11:3)

1. Transportnyy tsekh Sorskogo kombinata.
(Motortrucks)

USSR / Human and Animal Physiology (Normal and Patholo- T
gical). Blood Circulation. Heart

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97518

Author : Vishnevskaya, O. P., Yushchenko, N. A.

Inst : Not given

Title : On the Question of Mechanism of Development of Adrenalin Myocarditis

Orig Pub: Byul. eksperim. biol. i med., 1957, 44, No 8, 33-38

Abstract: Myocarditis arises in rats by introduction of 0.5 ml of adrenaline (concentration of solution is not indicated). Removal of cerebral cortex sharply increased the degree of myocarditis development. Transsection of spinal cord on the level of C_8 - Th_1 hindered the development of adrenaline myo-

Card 1/2 Lab. Histophysiology, Inst. Exptl. Biol AMS USSR + Lab Expth. Biol. Therapy AMS USSR. Inst. Normal + Pathological Physiology -

YUSHCHENKO, N.A.

USSR/Human and Animal Physiology - Circulation. V-4

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18127

Author : N.A. Yushchenko
Inst :
Title : The Problem of Experimental Coronary Insufficiency.

Orig Pub : Doklady AN SSSR, 1957, 112, No 4, 782-784

Abstract : Experimental atherosclerosis was produced in 15 rabbits by feeding them cholesterol for 2 months (1% of the daily ration). Thirty days after the conclusion of the cholesterol feedings, the vagus nerve was stimulated in the neck region by injecting small doses of turpentine beneath the epineurium. The greatest changes (in comparison with the controls) in the EKG on the standard and chest leads, which were characteristic for impaired cardiac circulation (distortion of the ST interval, negative T wave, splitting of the ventricular complex), were observed among those animals

Card 1/2

Inst. Normal + Pathological Physiology AMS USSR

USSR/Human and Animal Physiology - Circulation. V-4

Abs Jour : Ref Zhur - Biol., No 4, 1958, 18127

with atherosclerosis. Chronic stimulation of the vagus nerve increased the disturbance to coronary circulation in the presence of experimental atherosclerosis.

Card 2/2

YUSHCHENKO, N.A.

Induction of atherosclerosis in rabbits. Biul. eksp. biol. i med. 47 no. 3:31-33 Mr '59. (MIRA 12:7)

1. Iz laboratorii eksperimental'noy terapii (zav. - doktor meditsinskikh nauk A. M. Chernukh) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V. N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Anichkovym.
(ARTERIOSCLEROSIS, exper.
induction in rabbits (Rus))

ALEKSANDROV, P.N.; CHERNUKH, A.M.; YUSHCHENKO, N.A. (Moskva)

A 24-hour differential actograph. Pat. fiziol. i eksp. terap. 6 no.3:73-74 My-Je'62 (MIRA 17:2)

1. Iz otdela khimioterapii (zav. - prof. A.M.Chernukh) Instituta farmakologii i khimioterapii (direktor - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) AMN SSSR.

CHERNUKH A.M.; YUSHCHENKO, N.A.; ALEKSANDROV, P.N. (Moskva)

Effect of the antitubercular preparation trecator (Th1314) on the 24-hour alimentary activity in healthy and vagotomized rats. Pat. fiziol. i eksp. terap. 6 no.6:56-60 N-D'62 (MIRA 17:3)

1. Iz otdela khimioterapii (zav. - prof. A.M.Chernukh) Instituta farmakologii i khimioterapii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V. Zakusov) AMN SSSR.

CHERNUKH, A.M.; YUSHCHENKO, N.A.

Effect of tetracycline on general motor and food activity of animals during the development of experimental focal infection. Antibiotiki 7 no.4:349-352 Ap '62. (MIRA 15:3)

1. Otdel khimioterapii Instituta farmakologii i khimioterapii AMN SSSR.

(TETRACYCLINE) (FOCAL INFECTION)
(MOVEMENT (PHYSIOLOGY)) (DIGESTION)

ALEKSANDROV, P.N.; TOLMACHEVA, N.S.; YUSHCHENKO, N.A.

Effect of temperature factors on the concentration of tetracycline in the blood and organs of white rats. Antibiotiki 7 no.10:888-891 O'62 (MIRA 16:12)

1. Otdel khimioterapii (zav. - prof. A.M.Chernukh) Institute farmakologii i khimioterapii AMN SSSR.

YUSHCHENKO, N.G,

"Dosimetry for X-rays and Gamma-rays" p. 279, in the book Experience in the Use of Radioactive Isotopes in Medicine R. Ye. KAVETSKIY and I.T. SHEVCHENKO, publishing House of the UKRAINIAN SSR, KIEV 1955, represents medical transactions of conference held in KIEV from 18-20 January 1954.

So: 1100235

YUSHCHENKO, N.G.

Dosimeter for roentgen and gamma rays. Vest.rent.i rad. no.1:69-75 Ja-F '55. (MLRA 8:5)

1. Iz Fiziko-tekhnicheskogo otdela Kiyevskogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir. prof. I.T.Shevchenko).

(ROENTGEN RAYS, dosage, dosimeter)
(RADIATIONS, dosage, gamma rays, dosimeter)

YUSHCHENKO, N.G.; OVCHINNIKOV, M.S.

Device for X-ray irradiation (with an abrupt decrease of the dose) of large external pathological foci. Uch.zap. KRMOI 7: 94-100'61. (MIRA 16:8)

(X RAYS—EQUIPMENT AND SUPPLIES)

YUSHCHENKO, N.G.; BUTSIK, M.G.

Aeroion counter and generator. Uch.zap. KRROI 7:157-163'61. (MIRA 16:8)

(AIR, IONIZED--EQUIPMENT AND SUPPLIES)

L 50537-65 EWA(h)/EWT(m)

ACCESSION NR AP5014803 UR/0241/65/010/006/0083/0085

616-073.75(047)+616-073.755.9

AUTHOR: Yakhontova, N. I.

TITLE: [illegible] to measure the integral absorbed energy of X and gamma radiation

SOURCE: Meditsinskaya radiologiya, v. 10, no. 6, 1965, 83-85

TOPIC TAGS: [illegible], gamma ray, electrometer, radiation energy measurement

ABSTRACT: The radiation load on the body as a whole cannot be determined from the value of the dose on the skin because the biological effect of radiation is related primarily to the amount of absorbed energy. The author has constructed a device that automatically calculates the amount of energy for X and gamma rays absorbed in the human body during irradiation based on the difference in the energies measured at the input and output in different directions. The device consists of 3 flat ionization chambers and an electrometric system that calculates the difference between the ionization currents passing through the chambers during irradiation. The ionization chambers are set in a plane perpendicular to the direction of the central

Card 1/2

L 58527-65

ACCESSION NR: AP5010307

beam of radiation. The first chamber (1 × 1 × . cm) is placed in front of the object being investigated and it measures the energy of the primary beam striking the object. The second chamber (50 × 50 × 1 cm) is also placed in front of the object and it measures the energy scattered by the object in the opposite direction. The third chamber (same size) is placed behind the object and it measures the energy of the X or gamma rays that pass through the object. The second and third chambers are interconnected in parallel, thus enabling them to measure the energy flowing from an object in different directions. Orig. art. has: 1 figure.

ASSOCIATION: Kiyevskiy nauchno-issledovatel'skiy rentgeno-radiologicheskiy i onkologicheskiy institut (Kiev Scientific-Research Institute of Roentgen-Radiology and Oncology)

SUBMITTED: 06 ENCL: 00 SUB CODE: LS, MP

NO REF SOV: 000 OTHER: 000

Card 2/2

YUSHCHENKO, N. P., Cand Biol Sci -- (diss) "~~Desiccation~~ The drying and ~~preservation~~ storage of semen of ~~farm~~ agr animals in a dried state."

Mos, 1957. 15 pp (All-Union Sci Res Inst of Animal Husbandry)

(KL, 1-58, 117)

YUSHCHENKO, N.P.

Proof of the possibility of keeping mammal spermatozoa in a dried state. Dokl. Akad. sel'khoz. 22 no.6:37-40 '57. (MIRA 10:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivotnovodstva. Predstavlena akademikom V.K. Milovanovym.
(Spermatozoa)

YUSHCHENKO, N.,kand.biol.nauk

Drying as a new method of preserving animal semen. Nauka i pered.op. v sel'khoz. 9 no.3:45-48 Mr '59. (MIRA 12:5)
(Semen--Preservation)

YUSHCHENKO, N., kand.biol.nauk

Conservation prevents the introduction of artificial insemination. Nauka i pered.op.v sel'khoz. 9 no.9:73-75 S '59.
(MIRA 13:2)

(Artificial insemination)

Yushchenko, Nikolay R

YUSHCHENKO, Nikolay Romanovich; KULAYEV, Konstantin, Vladimirovich; KRIVENKO, Nikita Akimovich; PAKOV, V.I., inzhener, redaktor; YUDSON, D.M. tekhnicheskiy redaktor.

[Over-all technology of shunting stations; practice of the Nizhnedneprovsk Uzel station on the Stalinoline] Kompleksnaia tekhnologiia sortirovochnoi stantsii; opyt stantsii Nizhnedneprovsk Uzel Stalinskoi dorogi. Moskva, Gos.transp.zhel-dor izd-vo, 1955. 45 p. (MLRA 8:11)
(Railroads--Making up trains)

YUSHCHENKO, N.R., professor, doktor tekhnicheskikh nauk (Dnepropetrovsk)

A book needed by designers ("Manual for railroad station and junction designers." S.V. Zemblinov, I.I. Strakovskii. Reviewed by N.R. IUshchenko). Zhel.dor.transp. 37 no.7:95-96 Jl '56. (MLRA 9:8)

(Railroads--Stations) (Zemblinov, S.V.) (Strakovskii, I.I.)

YUSHCHENKO, N.R.

YUSHCHENKO, N.R., professor, doktor tekhnicheskikh nauk; IZYUMA, A.N., kandidat tekhnicheskikh nauk; NIKUNIN, I.I., kandidat tekhnicheskikh nauk; PINKEVICH, L.I., kandidat tekhnicheskikh nauk; [illegible], kandidat tekhnicheskikh nauk; [illegible], kandidat tekhnicheskikh nauk; SHLYAT, Ye.L., kandidat tekhnicheskikh nauk; [illegible], kandidat tekhnicheskikh nauk.

Another volume of the Engineering Reference Encyclopedia on problems of operating railroads. Reviewed by N.R. Yushchenko and others. Zhel.dor.transp. 39 no.7:92-95 Jl '57. (MLRA 10:8)
(Railroads--Management)

YUSHCHENKO, N.R., prof., doktor tekhn.nauk; ORLOVSKIY, P.N., inzh.
(Dnepropetrovsk)

Improvements in the utilization of switcher locomotives in classification yards. Zhel. dor. transp. 40 no.9:33-37 S '58. (MIRA 11:10)

(Railroads--Yards) (Railroads--Locomotives)

YUSHCHENKO, N.R., doktor tekhn. nauk prof.; MIKHNEVICH, L.N., kand. tekhn. nauk dots.; SHAFIT, Ye.M., kand. tekhn. nauk dots.

Some aspects of organization in moving large earth masses by rail. Trudy DIIT no.28:5-33 '59. (MIRA 13:2)

1.Nachal'nik Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Yushchenko).
(Railroads--Earthworks) (Earth work)

YUSHCHENKO, M.R., doktor tekhn. nauk prof.; TESLENKO, G.I., inzh.

Increasing the processing capacity of classification humps by applying the practices of the station at Nizhnedneprovsk Junction. Trudy DIIT no.28:125-135 '59. (MIRA 13:2)

1.Nachal'nik Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Yushchenko).
(Railroads--Hump yards)

YUSHCHENKO, N.R., doktor tekhn.nauk prof.; ORLOVSKIY, P.N., aspirant

Analysis of switching operations and potentialities of switch locomotive utilization in hump yards. Trudy DIIT no.28:65-83 '59. (MIRA 13:2)

1.Nachal'nik Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Yushchenko).
(Railroads--Making-up trains)

YUSHCHENKO, N.R., doktor tekhn.nauk, prof.; SHAPIT, Ye.M., kand.tekhn.nauk, dotsent

Methodology for conducting experimental observations in the study of the conditions of the rolling down of cars from humps (using telemetric apparatus). Trudy DIIT no.41:5-29 '62. (MIRA 17:2)

YUSHCHENKO, N.R., doktor tekhn. nauk, prof.

Foreword. Trudy DIIT no.43:3-4 '63. (MIRA 17:11)

1. Rektor Dnepropetrovskogo instituta inzhenerov zheleznodorozhnogo transporta.

YUSHCHENKO, N.R., prof. doktor tekhn. nauk (Dnepropetrovsk);
SHAFIT, Ye.M., kand. tekhn. nauk (Dnepropetrovsk)

Sorting of six-axle cars in hump yards and the braking characteristics of retarders. Zhel. dor. transp. 45 no.5: 78-81 My '63. (MIRA 16:10)

YUSHCHENKO, N.R., doktor tekhn. nauk, prof. (Dnepropetrovsk); BADYUL, B.K., kand. tekhn. nauk, dotsent (Dnepropetrovsk); YEGORSHINA, Ye.G., kand. tekhn. nauk, dotsent (Dnepropetrovsk); STEPANOV, V.V., kand. tekhn. nauk, dotsent (Dnepropetrovsk); PAPAKHOV, Yu.V., assistent (Dnepropetrovsk); BERESNEV, S.Ye., inzh. (Minsk)

Merits and shortcomings of the textbook on the mechanization of loading and unloading operations. Zhel dor. transp. 45 no.7: 92-94 Jl '63. (MIRA 16:9)

1. Nachal'nik otdela gruzovoy sluzhby upravleniya Belorusskoy dorogi (for Beresnev).

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33871
S/696/61/001/000/005/007
D231/D304

AUTHORS: Ostapenko, V. M. and Yushchenko, O. A.

TITLE: On a method of solving boundary-value problems on a continuous-action computer

SOURCE: Akademiya nauk Ukrayins'koyi RSR, Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 1, 1961, 86-95

TEXT: The authors discuss a method of solving boundary-value problems for systems of differential equations with constant coefficients by means of an МПТ-9 (MPT-9) continuous-action computer. It is supposed that the equations are linearly independent. The principle of the method consists in establishing the greatest root of the characteristic equation by means of the continuous-action computer, and by analytic methods of the first integral of the system with consequent reduction of the order of the system. The method of determining the maximum root follows that of I. I. Eterman and M. I. Obuvalin (Ref. 3: Avtomatika i telemekhanika, v.

Card 1/2

33871
S/696/61/001/000/005/007
D231/D304

On a method of solving ...

XVI, no. 6, 1955). It is shown that the accuracy of this method is of a high order. It is stated that the method may be applied to the system of linearly-independent partial differential equations with constant coefficients which arise in the problem of the flexure of a uniformly loaded freely hinged rectangular plate, and to other biharmonic cases. The case of such a plate is considered as an example. There are 5 figures and 3 Soviet-bloc references.

Card 2/2

1. YUSHCHENKO, O. A.

2. USSR (600)

4. Ceramic Industries

7. Supersonic treatment of ceramics. (Review). Dikinson "Ceramic Age" no. 58 August 1952, Stek. i ker., 9, No. 11, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

TEMCHENKO, M.Ye.; YUSHCHENKO, O.A.; ISHLINS'KYY, O.Yu., diysnyy chlen.

Stresses in a binding layer (glue, welds, fretwork). Dop.AN URSR no.5:365-369 '53. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Ishlins'kyy). 2. Instytut matematyky Akademiyi nauk Ukrayins'koyi RSR (for Temchenko and Yushchenko).
(Strains and stresses)

YUSHCHENKO, O.A.

Vibrations near the end of elastic variable-mass strings. Dop. AN URSR no.6:529-532 '55. (MLRA 9:6)

1.Institut matematiki AN URSR. Predstaviv diysniy chlen AN URSR O.Yu.Ishlins'kiy.
(Vibration)

YUSHCHENKO, O.A.

A case of axit symmetrical deformation under conditions of pure plasticity. [with summary in English]. Dop. AN URSR no.1:18-22 '57. (MLRA 10:4)

1. Institut matematiki AN URSR. Predstaviv akademik AN URSR O.Yu. Ishlins'kiy.
(Deformations (Mechanics))

LEVINSON, B.; SIVOZHELEZOV, G.; YUSHCHENKO, P.

Centralized maintenance and repair of electrical devices. Avt. transp. 41 no.2:20-21 F '63. (MIRA 16:2)
(Motor vehicles—Electric equipment)

KHABLO, I.; GAPANOVICH, N.; LEVINSON, B.; YUSHCHENKO, P.

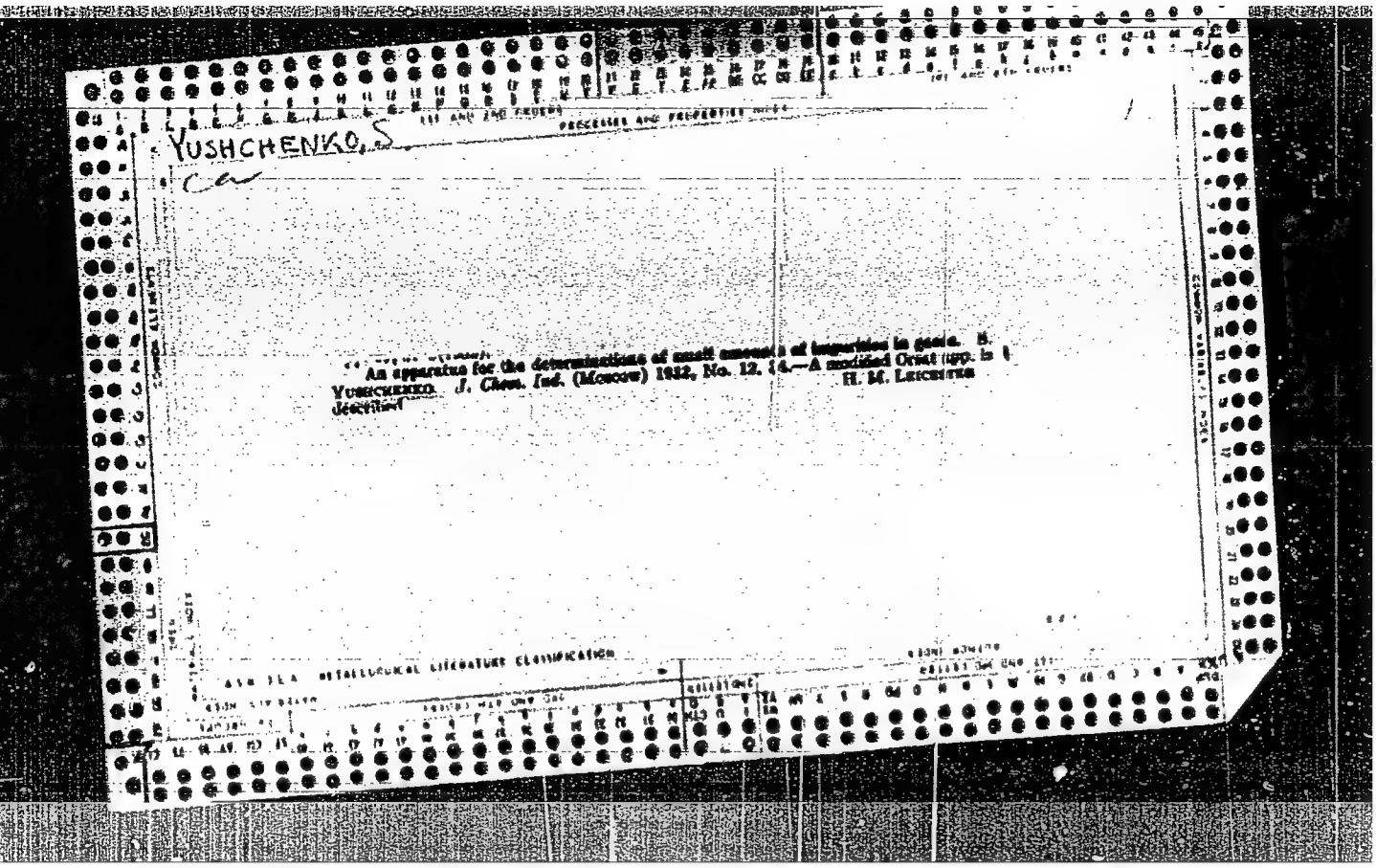
Centralized maintenance and repair of storage batteries is efficient. Avt. transp. 43 no.1:32-33 Ja '65. (MIRA 18:3)

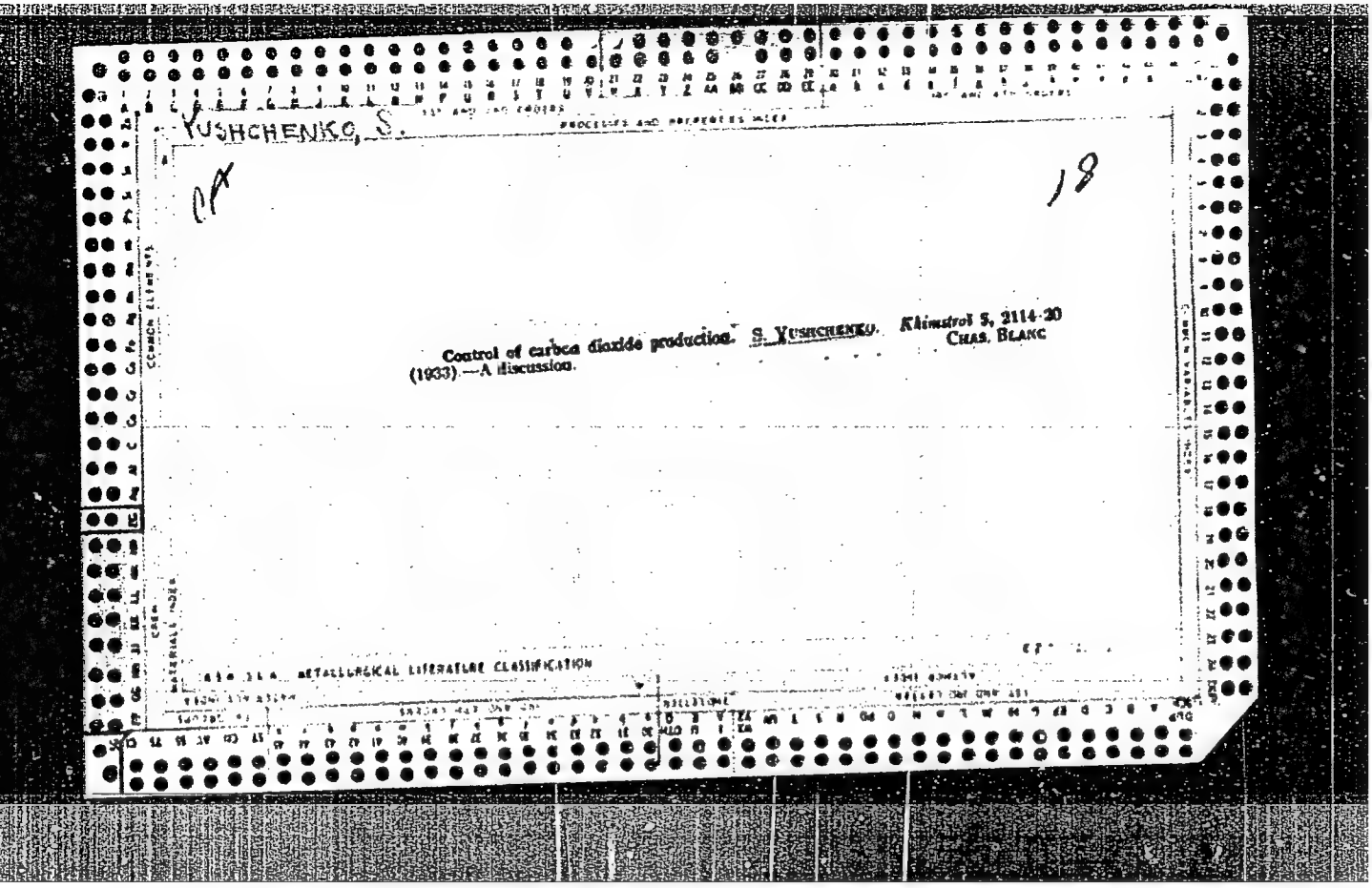
YUSHCHENKO, P. S.

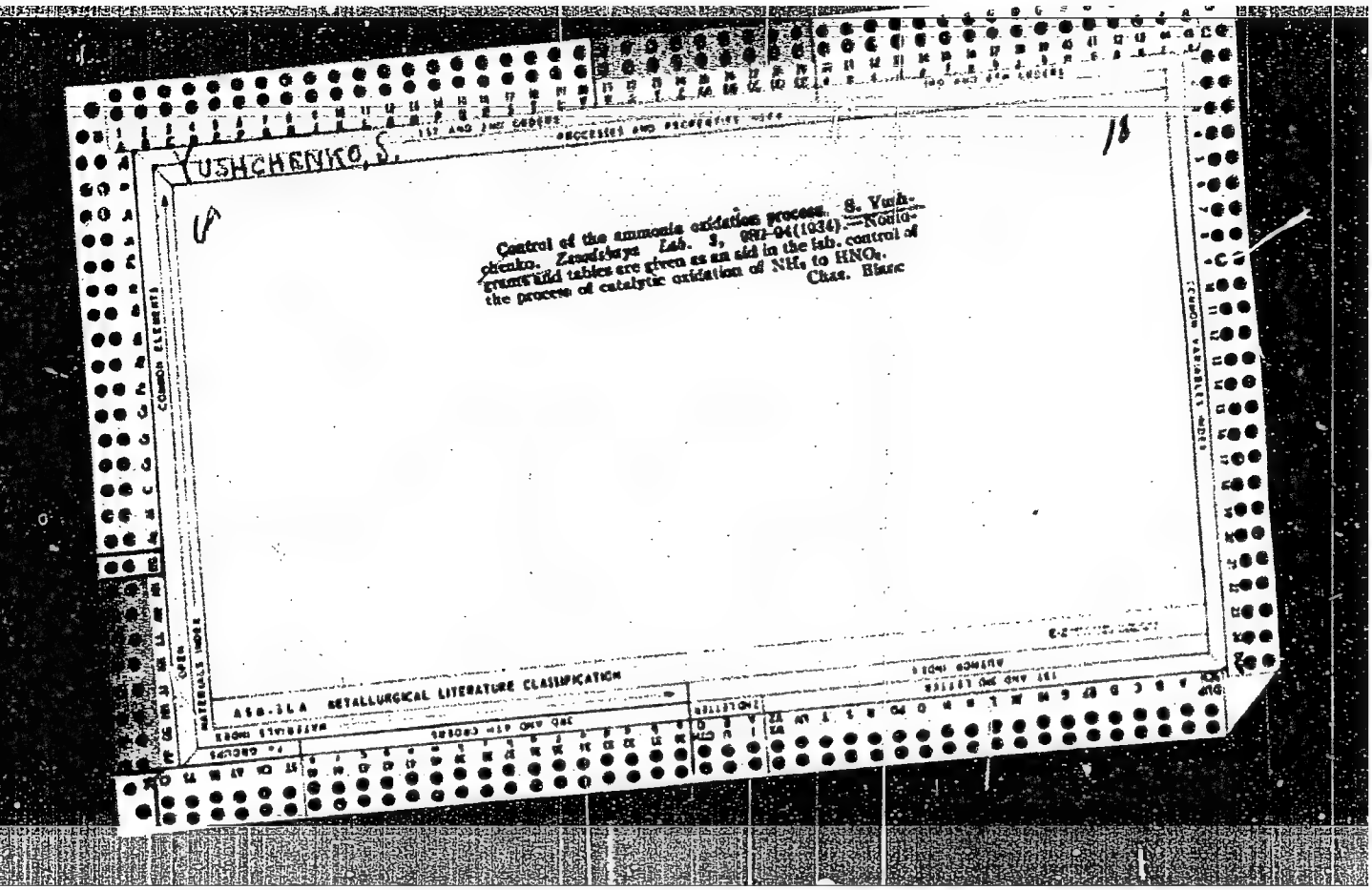
Fish Culture

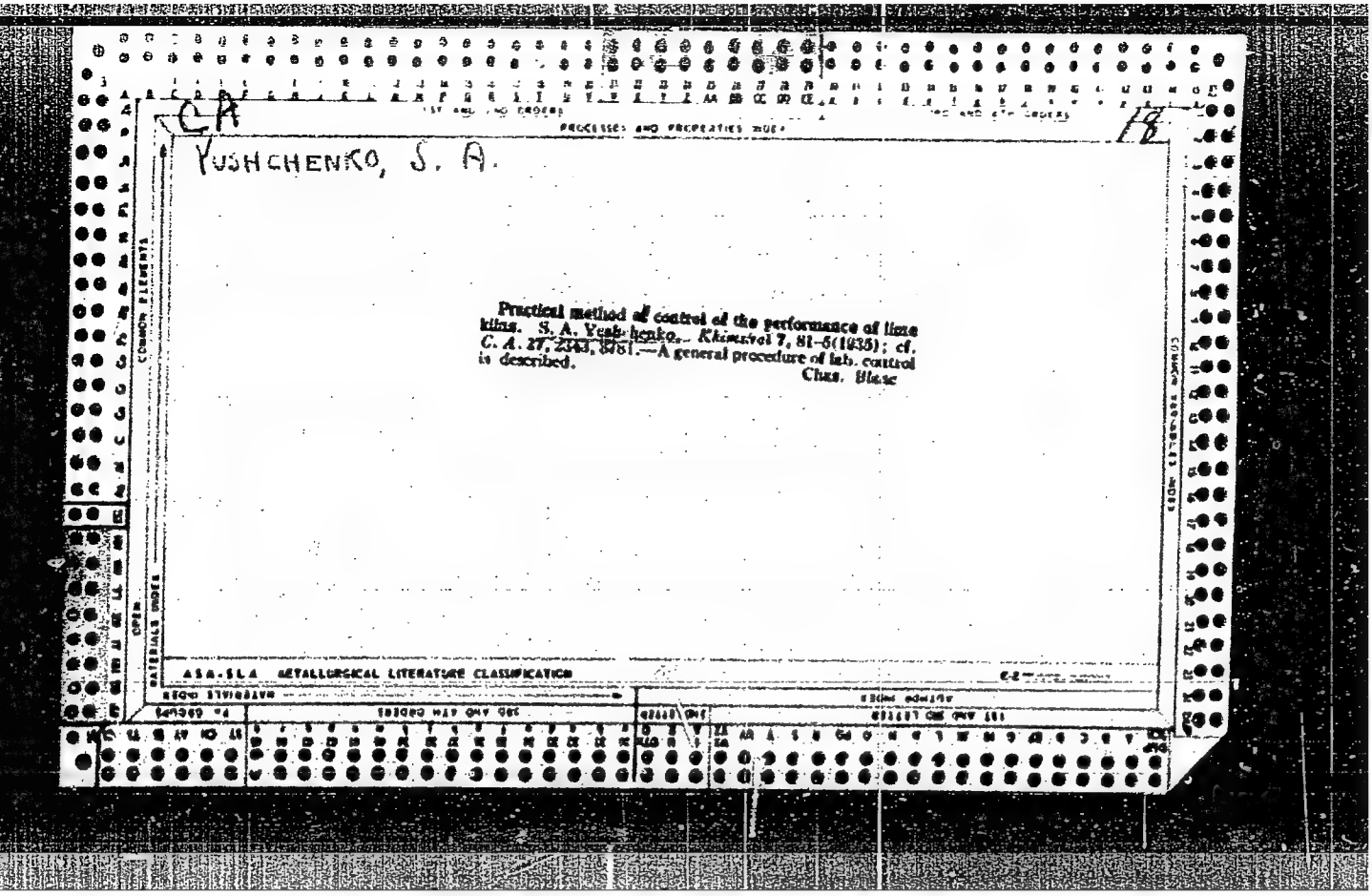
New apparatus for incubating sturgeon roe. Ryb. khoz., 28, No. 5, 1952.

MONTHLY LIST OF RUSSIAN ACCESSIONS, LIBRARY OF CONGRESS, OCTOBER 1952. UNCLASSIFIED.









CA

YUSHCHENKO, S. A.

Practical method of control of the performance of lime kilns. S. A. Yushchenko. *Khimstroi* 7, 81–5(1935); cf. *C. A.* 27, 2343, 3961.—A general procedure of lab. control is described.
Chas. Blanc

ASA-SLA METALLURGICAL LITERATURE CLASSIFICATION

YUSHCHENKO, S.A.

LOSSIYEVSKIY, V.L.

"Control measuring and regulating instruments in chemical plants." S.I.Shchepkin. Reviewed by N A.Stroganov, S.A. Yushchenko, V.L. Lossievskii. Khim.prom.no.4: 127-p.3 of cover. (MIRA 8:12)

1. Starshiy nauchnyy sotrudnik Akademii nauk SSSR.
(Chemical apparatus) (Shchepkin,S.I.)

YUSHCHENKO, T.

Improved feeding unit of the FShM-2 lardon cutter. Mias. ind. SSSR 34 no.4:47 '63. (MIRA 16:10)

1. Gorlovskiy myasnoy kombinat.

YUSHCHENKO, V.

YUSHCHENKO, V.

Our first achievements. Kast.ugl. 3 no.7:4 Jl '54. (MLRA 7:7)

1. Mashinist kombayna "Donbass".
(Coal-mining machinery)

L 04460-67 EWT(m)/EWP(t)/ETI IJP(c) JD/WW/JG/WB

ACC NR: AP6020908 SOURCE CODE: UR/0369/66/002/002/0133/0142

AUTHOR: Shchukin, Ye. D.; Yushchenko, V. S.

ORG: Institute of Physical Chemistry, AN SSSR, Moscow (Institut fizicheskoy khimii AN SSSR)

TITLE: Relationship between the selectivity of adsorption-induced strength deterioration under the effect of liquid metals and interatomic reactions

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 2, 1966, 133-142

TOPIC TAGS: metal surface, metal melting, liquid metal, ductility, electron structure, phase diagram

ABSTRACT: Adsorption-induced reduction of the free surface energy of solids at the solid-gas or solid-liquid interface and its effect on the processes of deformation and fracture of solids are two of the main problems of the physicochemical mechanics of materials. Liquid metal-induced embrittlement of solid metals is of particular interest, since it represents a case of relatively "pure" adsorption effect, physically reversible and free from accompanying phenomena (for instance, general corrosion in the case of stress corrosion). These phenomena have been studied thoroughly and therefore represent the easiest direction for further research on the nature and mechanism of the adsorption-induced intensification of deformation and

fracture of solids.

The effect of molten metals on mechanical properties of solid metals has been the subject of intensive studies by Soviet and Western scientists during the last decade. Many of these studies have shown that the character and intensity of the phenomena resulting from the adsorption-induced reduction of free surface energy depend on numerous physicochemical and mechanical factors. These factors can be divided into three main groups: 1) factors closely related to the interatomic reactions, such as chemical composition of solid and liquid phases, affinity of components with each other, and the crystal lattice of solid metals; 2) factors associated with the microstructure of the solid metal, such as structure of grain boundaries and presence of dislocations and other structural defects; and 3) kinetic factors, such as temperature of the liquid medium, deformation rate, method of stressing, and duration of the contact between solid and liquid metals. Most of the research effort has been devoted to the second and third group, although the first group is the most interesting, since it represents the factors which predetermine the very possibility of a reaction between a liquid and a solid metal, i. e., the selectivity in the effect of the given liquid metal on solid metals and alloys. The present study is an attempt to fill the gap and to establish some ways for at least approximate quantitative evaluation of the part played by interatomic

reactions in the reduction of solid metal strength by liquid metals. 5

According to the concepts of P. A. Rebinder[1] s school, the microscopic effect of interatomic reactions in the liquid metal-induced deterioration of a solid metal appears as a more or less intensive reduction of free surface energy of solid metal, σ, at the solid metal-liquid metal interface. Since deformation and fracture of a solid are always associated with the generation of new free surfaces, every reduction in the magnitude of σ, i. e., of the work required for the generation of new surfaces, intensifies and accelerates the processes of deformation and fracture. Several approaches have been used in the approximate evaluation of σ.

An investigation of brittle fracture of zinc[2] single crystals 1 mm in diameter, either coated with a thin layer[3] of mercury[4] or gallium and tested at room temperature or uncoated and tested at liquid nitrogen temperature, showed that in both cases the strength is characterized by the same invariant magnitude $K = (p_c \tau_c)^{1/2}$, where p_c and τ_c are respective values of normal and shearing stresses in the cleavage plane. Also $K = \text{const} \cdot \sigma^{1/2}$. The value of σ calculated from the experimental data was 800 erg/cm^2 for uncoated and 120—200 erg/cm^2 for mercury- or gallium-coated single crystals.[5]

L 04450-67

ACC NR: AP6020908

Investigation of the fracture stress dependence on the grain size established the magnitudes of σ for iron in liquid lithium and brass in mercury as 730 and 280 erg/cm^2, repectively, compared with 1000 and 1525 erg/cm^2 for iron-iron vapor and brass-brass vapor interfaces.

The respective magnitudes of σ at copper-liquid bismuth and brass-liquid bismuth interfaces were evaluated from the temperature of transition from brittle to ductile behavior and were found to be 90—160 and 500-900 erg/cm^2. Evaluation based on the magnitude of the dihedral angle at the interface between liquid metal and two grains of solid metal yielded magnitudes of 280 erg/cm^2 for copper-bismuth and 330 erg/cm^2 for brass-bismuth.

A direct determination of σ by the Tamman-Udin method showed that σ of zinc coated with gallium drops to 200 erg/cm^2.

These and numerous other results show clearly that in all the cases when a contact of a solid metal with a liquid metal causes a deterioration of the former the magnitude of σ drops sharply. On the other hand, a solid metal could be expected to retain its strength and ductility if the magnitude of σ remains unaffected by the contact with a liquid metal. In a general case involving a liquid adsorption-active metal A being in contact with a solid metal

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B, the part played by interatomic reactions A-A, B-B, and A-B in the deterioration of metal B amounts to a gradual weakening, breakdown, and rearrangement of the B-B atomic bonds. Analysis of several A-B binary systems revealed that the deterioration of B occurs, as a rule, if A and B have a simple eutectic-type phase diagram with a relatively low solubility of A in solid B. In all such systems the heat of mixing is positive, which indicates that the bonds in the B-A-B chain are considerably weaker than in the B-B-B chain or, in other words, that atoms of liquid A facilitate the breakdown of the B-B bonds.

The heat of mixing has been determined experimentally for numerous binary systems, including those of the above A-B type. This has opened the way for further development of the thermodynamic method for an approximate quantitative analysis of the interatomic reactions and the part they play in the effect of liquid metals on solid metals.

All the concepts discussed above are, of course, of a phenomenological nature. A direct solution of the problem, i. e., an evaluation of reaction forces based on the specific features of electron structure of the metals involved and their solutions would naturally be much more interesting. At

present, such a direct approach is still unrealistic because of the lack of necessary data. It is possible, however, to establish a relationship between the way a liquid metal affects a solid metal and the electron structure of both metals involved. The first such attempt was made by the authors and their co-workers, who found that, in all but a few cases in which liquid metal A brought about an embrittlement of a solid metal B, both A and B were nontransition metals, e. g., copper-lithium, copper-bismuth, aluminum-indium, germanium-gallium, and many others, which have no partially filled inner shells. However, this is not the only factor which determines the qualitative and quantitative nature of the interatomic reactions. Atomic (ionic) radius, valency, crystal lattice, and electronegativity are all of importance. For instance, in all binary systems in which the adsorption-induced effects were observed, the atomic radii of components differed by 10—15%. No deterioration of copper in liquid cadmium (the atomic radii differ only slightly) was observed, even though both are nontransition metals. Some other interesting deviations were also noted. Pure iron (transition metal) is not susceptible to deterioration under the effect of liquid metals. However, liquid alkali metals, some solders, and bearing alloys lower significantly the strength of steels. Mercury causes embrittlement of

D

Constantan (60% copper, 40% nickel) but does not affect either component.

Thus the specific nature of the interatomic reactions, which is responsible for a sharp decline of the free surface energy and, consequently, for a deterioration of mechanical properties of a solid metal exposed to a contact with a liquid metal, can be definitely attributed to three factors, i. e., the electron structure, the magnitude of the heat of mixing, and the type of phase diagram.

It could be assumed that all the above aspects are applicable not only to a solid metal-liquid metal interface but also to the case of an excess concentration of component A in the surface layer of a solid metal B in vacuum or in air. Experiments showed that a sharp decline in free surface energy may occur under such conditions.

The liquid metal-induced deterioration of solid metals may also occur when the concentration of liquid metal atoms in the region of the crack propagation is below the equilibrium concentration. In this case the actual effect of liquid metal will be considerably stronger than could be expected from the drop of surface energy calculated under static conditions. The

L 04460-67

ACC NR: AP6020908

amount of liquid metal supplied to the front of a propagating crack is another factor which should be taken into consideration. This amount can be greatly reduced by the diffusion of liquid metal into the solid metal. In case the supply of liquid metal is limited the crack would stop, not because of the low activity of the liquid metal but because of an insufficient concentration. Orig. art. has: 2 formulas and 1 table. [FSB: v. 2, no. 9]

SUB CODE: 11, 20 / SUBM DATE: 26Jan66 / ORIG REF: 048 / OTH REF: 024

surface - active agents

Card 8/8

YUSHCHENKO, YE. L.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp. There is 1 French reference.

Section of Computer Mathematics. 192-198

Reports of the following personalities are included:

Blagoveshchenskiy, Yu. V. (Kiyev). On Some Approximate Methods of the Solution of Partial Differential Equations. 192

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Neyshuler, L. Ya. (Moscow). Tabulation of Functions and Applications. 193-194

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YUSHCHENKO, YE. L., Cand. in Phys. Math. Sci. nad KOROLYUK, V. S., Cand. in Phys. Math. Sci.

"Determination of the Level Line of a Function of 2 Variables on a High Speed Electronic Computing Machine" a paper presented at the Confernce on Methods of Development of Soviet Mathematical machine-Building and Instrument-Building, 12-17 March 1956.

Translation No. 596, 8 Oct 56

YUSHCHENKO, Ye. L.

STREL'TSOV, O.A.; YUSHCHENKO, Ye.L.; IVANENKO, L.N.

Solving M.I. Tenkin and V.M. Pyzhev's kinetic equation for the synthesis of ammonia using an electronic computer (MESM). (MIRA 10:10)
Ukr.khim.zhur. 23 no.4:423-430 '57.

1.Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR i Institut matematiki AN USSR.
(Chemical reaction, Rate of)

YUSHCHENKO, Ye.L.

28(2) PHASE I BOOK EXPLOITATION SOV/1345

Akademiya nauk Ukrainskoy SSR. Vychislitel'nyy tsentr

Voprosy vychislitel'noy matematiki i tekhniki (Problems in Computer Mathematics and Technique) Kiyev, Izd-vo AN Ukrainskoy SSR, 1958. 97 p. (Series: Its: Sbornik trudov, vyp. 3) 7,000 copies printed.

Editorial Board: Glushkov, V.M., Doctor of Physical and Mathematical Sciences (Resp. Ed.), Dashevskiy, L.N., Candidate of Technical Sciences, and Shkabara, Ye. A., Candidate of Technical Sciences; Ed. of Publishing House: Kaplan, Ya. L.; Tech. Ed.: Rakhlina, N.P.

PURPOSE: This collection of articles, issued by the Computer Center of the Ukrainian SSR Academy of Sciences, is intended for scientists and engineers in the field of computer mathematics and techniques, and for students of vuzes specializing in this field.

COVERAGE: The collection is devoted to the programming of mathematical problems on electronic computers and to the design of

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units and components of these machines. A number of the articles contain information on scientific research carried out in 1955-1956, a description of installations already developed and some information on the operation of existing machines. An original method of performing multiplication and division in the arithmetic units of computers is described in the first article. Programming of problems connected with the statistical control of production are discussed in the second paper. The third and fourth articles deal with questions concerning the development of individual units of electronic computers. A description of standard components is given in the fifth and their design for maximum reliability is discussed in the sixth article. The seventh, eighth, and ninth articles explain the design of circuits with semiconductor and magnetic elements and the tenth article deals with problems concerning the operation and maintenance of electron tubes. References appear after each article.

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Yushchenko, Ye.L.

16(1) SOV/2660

PHASE I BOOK EXPLOITATION

Vsesoyuznyy matematicheskiy s"yezd: 3rd, Moscow, 1956

Trudy. t. 4: Kratkiye soderzhaniya sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow, vol. 4: Summary of Sectional Reports. Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959.
247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: O.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Gnedenko, K.A. Rybnikov, P.L. Ul'yanov, V.A. Uspenskiy, A.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the texts of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, topology, mathematical functional analysis, probability theory, computational mathematics, problems of mechanics and physics, computational logic and the foundations of mathematics, and the history of mathematics.

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Vlasov, V.Z. (Moscow). Method of initial functions in the theory of thick multilayer plates and shells 102

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GLUSHKOV, Viktor Mikhaylovich [Hlushkov, V.M.], doktor fiziko-matem.nauk; YUSHCHENKO, K.L., otv.red.; TEPLYAKOVA, A.S., red.

[Control elements in automatic production processes] Keruiuchi mashyny avtomatyzovanoho vyrobnytstva. Kyiv, 1960. 38 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.5, no.9). (MIRA 13:11)
(Automatic control) (Servomechanisms)

SOKOLOVSKIY, Yuriy Iosifovich [Sokolovs'kyi, IU.I.], dotsent, kand. ped. nauk; YUSHCHENKO, K.L., kand. fiziko-mat. nauk, otv. red.; STARODSTENKO, T.M., red.; MATVIICHUK, O.A., tekhn. red.

[How machines calculate, translate books, and play chess] Iak machyny obchysliuiut', perekladaiut' knyhy i hraiut' u shakhy. Kyiv, 1961. 44 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.8) (MIRA 14:9)
(Electronic calculating machines) (Translating machines)

YUSHCHENKO, Ye. L.

PHASE I BOOK EXPLOITATION GOV/5618

Gnedenko, Boris Vladimirovich, Vladimir Semenovich Korolyuk, and Yekaterina Logvinovna Yushchenko

Elementy programmirovaniya (Programming Elements) Moscow, Fizmatgiz, 1961. 348 p. 25,000 copies printed.

Ed.: L. A. Solov'yeva; Tech. Ed.: N. Ya. Murashova.

PURPOSE: This textbook has been approved by the Ministry of Higher and Special Secondary Education of the RSFSR for schools of higher education. It may also be useful to members of scientific research institutes concerned with computer programming.

COVERAGE: The book contains directions on the programming of automatic digital computers. It reflects investigations made in the field of automation of programming, solutions of logical problems by automatic digital computers, and the operational method proposed by A. A. Lyapunov, Professor, whose lectures at the Moscow University suggested to the authors the basis for this textbook. No personalities are mentioned. There are 29 references, all Soviet (including 3 translations).

Card 1/5

S/044/62/000/009/063/069
A060/A000

AUTHORS: Korolyuk, V.S., Yushchenko, K.L.

TITLE: Problems in theory and practice of programming

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 59, abstract 9V374 ("Zb. prats' z obchysl. matem. i tekhn.". T. I. Kyiv, AN URSR, 1961, 5 - 30; Ukrainian; Russian summary)

TEXT: A method of programming is set forth, based on the concept of the addressing algorithm. The method proposed does not depend on the actual features of automatic digital computers and admits the automatic realization of algorithms by them.

Author's summary

[Abstracter's note: Complete translation]

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33867
S/696/61/001/000/001/007
D251/D304

16.6800 (1250, 1327, 1329)

AUTHORS: Korolyuk, V. S. and Yushchenko, K. L.

TITLE: Questions of the theory and practice of programming

SOURCE: Akademiya nauk Ukrayinsk'koyi RSR, Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky. v. 1, 1961, 3-30

TEXT: The authors set out a scheme of programming which is based on the concept of an address algorithm, and which is independent of the particular features of the automatic digital computer (ADC) and permits the automatic realization of the algorithms in the ADC. The concepts of A. N. Kolmogorov (Ref. 7: UMN, v. 8, no. 4, 1953) concerning programming are stated, and concrete examples of the algorithms for the transformation of information are analyzed. The problem of coding is considered. As the basic material a system S of elements is taken among which structural relationships are established. Examples of possible systems S are given. The concepts of word, alphabet, code and coding system are explained, and the

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Questions of the theory ...

method of obtaining a coding system for the problem of the theory of normal algorithms of A. A. Markov (Ref. 1: Trudy matematicheskogo in-ta im. Steklova, v. 42, 1954) is indicated. Although the choice of a coding system for an actual problem will be determined by the conditions of that problem, a general scheme that will be sufficient for all problems which are of interest to the authors is established as follows: A is an alphabet, and S_A the set of words in A, is taken as the set of codes. Following A. P. Yershov (Ref. 4: Programmiruyushchaya programma dlya БЭСМ (Programming Program for BESM), Izd-vo AN SSSR, 1958), it is assumed that the choice of algorithmic operations P is not fixed in S_A. The system of codes is denoted by $\sigma(S_A, P)$. The initial condition of the problem is defined by the reflection A of the codes of the set S into the same set. A is defined either constructively or by a system of the form $Aa = {}'a$ (a and ${}'a \in S$) or by structural laws. In accordance with existing iterative codes, a is called the address of 'a. The "empty" code Λ is defined as such that when a does not lie in the region

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Questions of the theory ...

of definition of A, then Aa = Λ. The address reflection A is called the condition of the problem. The graph scheme of algorithms proposed by L. A. Kaluzhnin (Ref. 6: Ob algoritmizatsii matematicheskikh zadach problemy kibernetiki, v. 2, FMI, 1958) is discussed. It is stated that the transformation of the condition of the problem lies in the variation of the reflection A. The transfer operation is defined such that $a \Rightarrow b$ implies $'b = a$ (a and $b \in \sigma$). The iterative nature of the transformation of A is indicated. Operations allotting the location of the address (line-operations) are discussed. f is taken to be a function in σ, defined by the codes of S, the operations of P and the line-operation. Various examples of f are considered. The construction of a predicative formula is discussed. The basic concept of an address programm is established as follows: An address program consists of the initial reflection A in the set of codes S and the sequence of address formulae in the system (S, P') in a known order of application. Schemes are given for the inspection of information, inspection of the sequence of codes, and the simultaneous inspection of the order of the sequence, in typical cases. There are 7 Soviet-bloc references.

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S/696/61/002/000/001/009
D299/D302

9.7100

AUTHOR: Ilyedenko, B.V., Hlushkov, V.M. and Yushchenko, K.L.

TITLE: Mathematical parameters of general-purpose digital computer "Kyyiv"

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 2, 1961, 5-7

TEXT: The mathematical parameters and the elementary operations of the digital computer "Kyyiv" are described. The parameters were chosen so as to enable the solution of a wide range of mathematical and logical problems, and to render programming simple. The main types of problems to be solved by the computer, are: 1) Linear- and non-linear systems of differential equations with variable coefficients; 2) partial differential equations; 3) problems involving the use of the Monte-Carlo method; 4) problems of linear algebra, polynomials with several variables, etc; 5) processing of tabulated data; 6) tabulation of functions; 7) non-arithmetical problems, in particular those related to programming. A

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Mathematical parameters of ...

fixed-point system is used which is much simpler (than a floating-point one) and facilitates operation of the computer. With regard to digits 10-12 decimal digits (approx. 40 binary) are used. The external memory is of large capacity; the internal memory has 2048 cells, out of which 512 belong to the backing store. Three types of memories are incorporated in the machine: 1) Permanent for storing the most frequently used constants and programs for computing elementary functions (sin x, ln x, etc.) variable-access for the library of subroutines which are connected in case of need; 3) fast-access for program testing error correction, etc. Eleven digits are required for the coding of one adress; a three-address system of instructions was adopted. The elementary operations of the computers are as follows: a) Basic arithmetical operations, b) auxiliary arithmetical operations; c) logical operations; d) control operations; e) operations involving the external units (changs of codes between the magnetic drum and the working memory, etc.); f) group operations, permitting encoding the cyclical processes in a convenient form. The group operations constitute one of the peculiar features of the computer "Kyyiv"; they are described in detail in a subsequent article (pp. 16-20). There are 5 Soviet-bloc references.

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35205
S/696/61/002/000/003/009
D299/D302

9,7100

AUTHORS: Korolyuk, V.S., Shkabara, K.O. and Yushchenko, K.L.

TITLE: Group operations of the computer "Kyyiv"

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 2, 1961, 16-20

TEXT: Methods are described for performing group operations on the computer "Kyyiv". Group operations are special instructions, whereby the information about performing cyclical programs is given in compact form by means of a reduced number of codes. Group operations have usually the purpose of enabling fullest possible use of the backing store instead of the working store. Assume the cyclical program contains a group of addresses which vary from cycle to cycle according to a formula involving the value d of the initial shift, and the step p of re-addressing. The number pair (d, p) is called parameter. The necessary information for the cycle consists of: 1) The set of cycle operations in the initial

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Group operations of the ...

form; 2) address changes; 3) the parameter. In order to recognize the changed addresses, an additional 12-th digit is used. For this purpose, two operations are introduced: The start of the group operation (SGO), and the end of the group operation (EGO). Further, the encoding and use of these 2 operations is described, whence follows that the operation SGO together with the operation EGO, make it possible to encode cyclical programs which contain parameters on the permanent memory; therefore this method is particularly convenient for cyclical processes with renewals, as well as in the case of a fixed number of cycles. In order to realize the described processes, the control unit incorporates the following devices: A cycle register, an address register, an address adder and a matching device. As variable-access stores are in wide use which in case of need can be incorporated in the internal, backing store of the computer, provisions are made for one more group operation which makes it possible to insert any program into the backing store. The above operations can be performed by increasing only slightly the number of elements of the control unit of the computer. Two examples are given, illustrating the method. There are 3 Soviet-bloc references.

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35206

S/696/61/002/000/004/009
D299/D302

9.7100

AUTHOR: Yushchenko, K.L.

TITLE: Address algorithms and digital computers

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 2, 1961, 21-25

TEXT: Proceeding from the concept of address algorithms, the usefulness is ascertained of designing a general-purpose digital computer with multi-rank addressing. The rank r is defined of the address function. The concepts and notations were adopted from V.S. Korolyuk and K.L. Yushchenko (Ref. 1: Pytannya teoriyi i praktyki prohramuvannya, Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 1, Vyd-vo AS UkrRSR, 1961). The address programs of ref. 1 are analyzed. This analysis shows that the ordinary algorithmic operations (+, -, x, etc.) are not only used for first-rank addresses (as in the case of the computers "Strila", "SHELM", etc.), but also for addresses of other ranks. Hence address programs

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Address algorithms and ...

could be most conveniently ...ed by means of a digital computer, in which any of the elementary operation can be performed on addresses of various rank, and not only on addresses of first rank. Such computers are called "multi-rank addressing computers". It is noted that any address program can be reduced to a program which contains functions of first- and second rank only. Thus, the address programs can best be performed on a computer with two-rank addressing. In this connection, several particular operations are considered, planned for the computer "Kyyiv". The operation ① is a group operation for a second-rank address; the encoding of operations on higher-rank addresses, reduces to repeated application of the operation ①. The operations SGO and EGO (considered in the preceding article), are group operations on first-rank addresses. There are 2 Soviet-bloc references.

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35207

S/696/61/002/000/005/009
D299/D302

9.7100

AUTHORS: Ivanenko, L.M. and Yushchenko, K.D.

TITLE: Basic principles of the programming instruction for the computer "Kyyiv"

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 2, 1961, 26-28

TEXT: In developing the basic principles of the programming instructions for the ПП-2 (PP-2) "Kyyiv", the authors assumed that the following 2 information problems have to be solved: 1) to reduce to a minimum the number of classes of information required, and 2) to encode the abstract words in such a way that the computer should be able to analyze the input information in the shortest possible way. In meeting these requirements, it was possible to develop the PP-2 program, containing only a few hundred instructions. This compares very favorably with the first programming instructions for the computers SHELM and "Strila" which have certain

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Basic principles of the ...

shortcomings. In developing general-purpose programming instructions, the authors (of the present article) were mainly concerned with convenient programming of computational problems involving the wide use of group operations. This does not exclude the programming of complex logical problems. In the PP-2 program, Lukasiewicz's calculus is used (for the first time in the USSR) for writing the formulas of algebraical transformations; thereby the parentheses are excluded which greatly simplifies the programming algorithm. In addition, the authors standardized the principal methods of programming (construction of cyclical processes and schemes for the analysis of information). With regard to encoding, the authors adopted the principle of integration and standardization (as in industrial automation processes). By empirical methods, the information was encoded in such a way that the analytical units of the PP-2 program have almost the same number of instructions as the synthetical units. Only 2 operators (of analysis and of synthesis) were used. The formal language in which the input information is written, constitutes a linear record of sentences. The input information is encoded and inserted into

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Basic principles of the ...

the computer in the form of instruction-sentences, partially written in conventional addresses. This method leads to greater simplification. Provisions are made for writing the PP-2 program in the form of a set of subroutines which are programmed one after another at their actual places and automatically recorded on drums. The operation of PP-2 is automatically doubled. If all the results repeat themselves, they are printed. There are 4 Soviet-bloc references.

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35208

S/696/61/002/000/006/009
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9.7100
9.7140 (1147,1164)

AUTHORS: Yushchenko, K.L. and Dryuchyna, M.O.

TITLE: Subroutine library of the computer "Kyyiv"

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 2, 1961, 29-32

TEXT: The subroutine library of the computer "Kyyiv" provides for a large choice of standard programs for computing scalar and vector functions The existence of the library simplifies work on automation of programming, on controlling the introduction and checking of the various parts of the program; thereby the possibility of error in programming is reduced and much time is gained. For convenient use of the subroutines, the computer "Kyyiv" performs 2 special operations (conditional transition to the subroutine and reverse-register transition). The subroutine library contains a set of backing-store units. A particular feature is the presence of variable-access store units which can be inserted, according to need,

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Subroutine library of the ...

in the backing store. This makes it possible to considerably extend the choice of standard subroutines. Part of the standard subroutines, such as sin x, ln x, arc tg x, e^x, are stored in the permanent-store units of the backing store. The variable-access store contains the general-purpose programming instructions, the linear-algebra subroutine, the floating-point subroutine etc.; it also contains programs for computing a certain function with different degrees of accuracy, different storage capacity and working time. This renders it possible to make full use of the computer in solving actual problems. In setting up the library of subroutines, extensive use was made of the algorithmic operations φ and GO on second-rank addresses; these operations (described in 2 of the preceding articles), make it possible to reduce to a minimum the characteristic input information (which, for a vector, is the number of its components). As an example, the program for multiplying 2 matrices A and B is considered. This example shows that the program can process input information, stored in any of the memory units, provided the address of the first cell of this unit is placed in the address φ_0 of the first element

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Subroutine library of the ...

of the matrix A. It is not necessary to use a special memory unit of standard cells for performing the subroutine. There are 4 Soviet-bloc references.

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9.7000

AUTHORS: Yushchenko, E.L., and Bystrova, L.P.

TITLE: A programming program for which an address algorithm serves as information

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, v. 3, 1961, 30 - 41

TEXT: The authors discuss an algorithm for the transfer from an address program to the program of an actual computer, the particular case of the "Kyyiv" computer being described. A program for which an address algorithm serves as information is designated by ПП-А (PP-A), and a variant of this for the "Kyyiv" computer, described by L.N. Ivanenko and E.L. Yushchenko (Ref. 2: Zb. prats' Obchyslyuval'noho tsentra AN URSR, no. 4, 1960) is called the ПП-2 (PP-2). The information for this variant programming program is expressed in the form of 1) transformation formulae, 2) program entry formulae, 3) predicative formulae, 4) non-standard operators. Each

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A programming program for which ... S/696/61/003/000/004/011
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of these is discussed in detail, a diagram being given for the division of the memory in the PP-A and in the operational program. The coding of individual operations is given in full. A programming algorithm is given, consisting of 1) leading algorithm block, 2) arithmetic block, 3) sub-programming block, 4) non-standard operator block, 5) memory address operator block, 6) shunting to sub-program, 7) true address appropriation block. Full programming details are given. There are 1 table and 3 Soviet-bloc references.

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D251/D304

AUTHORS: Yushchenko, K.L., and Kostyuchenko, O.I.

TITLE: An algorithm for translating bracketed expressions of formulae into Lukashevych non-bracketed expressions

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Obchyslyuval'nyy tsentr. Zbirnyk prats' z obchyslyuval'noyi matematyky i tekhniky, no. 3, 1961, 84 - 89

TEXT: An example of a formula in bracketed and in Lukashevych forms is given, and the application of the latter form to two-positional algebraic logic is mentioned. A programming algorithm for translation of formulae is sought, the operations of mathematics and logic being converted into the operations "stroke" and "transfer to address". The complete program of the algorithm is given in address form. There are 2 Soviet-bloc references.

Card 1/1

YUSHCHENKO, Ye.L. [IUshchenko, K.L.]; MIKHAYLOVA, Ye.I. [Mykhailova, O.I.]

Algorithms of the formal check of bracket and bracketless forms of recording formulas with single and two-place operations. Zbir. prats' z obchys. mat. i tekh. 3:90-93 '61. (MIRA 15:2)
(Translating machines)
(Information theory)
(Electronic calculating machines)

GLUSHKOV, Viktor Mikhaylovich, akademik; YUSHCHENKO, Yekaterina Logvinovna, kand. fiz.-mat. nauk; KALUZHNIN, L.A., doktor fiz.-mat. nauk, prof., retsenzent; NEMCHUNOVA, O.A., red. izd-va; SHAFETA, S.M., tekhn. red.

["Kiev" electronic computer] Vychislitel'naia mashina "Kiev"; matematicheskoe opisanie. Kiev, Gostekhizdat USSR, 1962. 183 p. (MIRA 16:6)
(Electronic computers)
(Programming (Electronic computers))

41603
S/021/62/000/010/005/008
D251/D308

16,7000

AUTHOR: Yushchenko, K.L.

TITLE: On the completeness of the means of 'address language'

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 10, 1962, 1305 - 1307

TEXT: In order to establish the universality of an 'address language', it is sufficient to demonstrate the possibility of writing the algorithm of some Tjuring machine in it. The author considers the nature of the Tjuring machine, and shows that the address language is suitable for transferring as much of the initial information to the address reflection as is desired. For the description of an arbitrary Tjuring machine, the following address language means are shown to be sufficient: 1) address dispatch a $\Rightarrow$ b; 2) absolute transition according to a formula which includes a second rank address $^{2}a\,O'\,b$; 3) second rank address dispatch; 4) addition operation of the form 'a + $\delta \Rightarrow$ a. It is shown that information concerning not only an actual problem but the class of problems may be referred to the initial address reflection.

Card 1/2

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D251/D308

On the completeness of the means ...

ASSOCIATION: Instytut kibernetyky AN URSR (Institute of Cybernetics of the AS UkrSSR)

PRESENTED: by V.M. Hlushkov, Academician

SUBMITTED: December 28, 1961

Card 2/2

ACCESSION NR AM4021971 BOOK EXPLOITATION S/

Yushchenko, YEkaterina Logvinovna (Candidate of Physical and Mathematical Sciences)

Address programming (Adresnoye programmirovaniye), Kiev, Gostekhizdat USSR, 1963, 287 p. illus., biblio. 4,000 copies printed.

TOPIC TAGS: address programming, address language, automatic programming, electronic computer, library subprogramming, electronic computer URAL, economics cybernetics

PURPOSE AND COVERAGE: The book gives a universal algorithmic address language and a method of programming digital computers based on it. The address language is suitable for describing arithmetic and complex information-logic problems (programming programs, problems of economics cybernetics, or model recognition), for describing electronic digital computers as automatic machines with programmed control, and can serve as the basis for automatic programming. The method of address programming is not connected to the concrete features of the machines and can serve as a general method of programming digital computers. The book is intended for engineers and researchers in computer mathematics and computer technology and also for specialists of other branches; it can also be useful to students in the course on computers and programming.

Card 1/2

ACCESSION NR AM4021971

TABLE OF CONTENTS [abridged]:

SUB CODE: CP SUBMITTED: 17Sep63 NR REF SOV: 026

OTHER: 000 DATE ACQ: 05Mar64

Card 2/2

LYUBCHENKO, Georgiy Georgiyevich; SERGIYENKO, Ivan Vasil'yevich; KOROLYUK, V.S., retsenzent; YUSHCHENKO, Ye.L., retsenzent; IL'ICHEVSKIY, S.A., red.

[Computers and programming] Matematicheskie mashiny i programmirovanie. Kiev, Izd-vo Kievskogo univ., 1963. 219 p. (MIRA 17:7)

YUSHCHENKO, K.L., kand. fiz.-matem. nauk, otv. red.; RABINOVICH, Z.L. [Rabinovych, Z.L.], kand. tekhn. nauk, otv. red.: LABINOVA, N.M., red.; BEREZOVSKAYA, D.N. [Berezovs'ka, D.N.], tekhn. red.

[Computer mathematics and technology] Obchysliuval'na matematyka i tekhnika. Kyiv, Vyd-vo AN URSR, 1963. 128 p. (MIRA 16:11)

1. Akademiya nauk URSR, Kiev. Instytut kibernetyky.
(Electronic computers)

ACCESSION NR: AT4019734 S/0000/63/000/000/0040/0044

AUTHOR: Yushchenko, K. L. (Yushchenko, Ye. L.)

TITLE: A new method for solving a linear programming problem

SOURCE: AN UkrRSR. Insty*tut kibernety*ky*. Obchy*slyuval'na matematy*ka i tekhnika (Computer mathematics and engineering). Kiev, Vy*d-vo AN UkrRSR, 1963, 40-44

TOPIC TAGS: linear programming, "R-operation", non-linear programming

ABSTRACT: The author presents a new method for solving a linear programming problem, which is based on the application of one of the so-called "R-operations", suggested by V. L. Rvachev (Pro anality*chny*y opy*s deyaky*kh geometry*chny*kh obraziv - A geometric description of certain geometric figures). Linearity of inequalities is assumed only in order to simplify computation. In this manner the method can be applied while solving other problems of mathematical (non-linear) programming. Orig. art. has 14 equations.

ASSOCIATION: none

Card 1/2

YUSHCHENKO, Yekaterina Logvinovna; GRINCHENKO, Tamara Alekseyevna;

[Programming program with input address language for the Ural-1 computer; programmers manual] Programmiruiushchaia programma s vkhodnym adresnym iazykom dlia mashiny Ural-1; spravochnik programmista. Kiev, Naukova dumka, 1964. 105 p.
(MIRA 17:5)

YUSHCHENKO,Ye.L., kand. fiz.-mat. nauk, otv. red.; MEL'NIK, T.S., red.

[Cybernetics and computer techniques] Kibernetika i tekhnika vychislenii. Kiev, Naukova dumka, 1964. 170 p. (MIRA 17:12)

1. Akademiya nauk URSR, Kiev. Institut kibernetiki.